



WWF
SUMMARY

CAN

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ASSESSING CLIMATE CHANGE VULNERABILITY IN THE ST. JOHN RIVER



WWF-CANADA IS ASSESSING THE HEALTH OF CANADA'S FRESHWATER SYSTEMS AND ADDRESSING THE GREATEST THREATS THEY FACE.

In recent years, New Brunswick and, more specifically, the communities within the St. John River watershed have experienced an increased frequency of climate-change related events including floods, blizzards, ice and wind storms.

Along with environmental damage, these events have caused negative health impacts, physical and infrastructure changes, loss of household savings and temporary loss of services resulting in economic disruption. Though these hazards affect communities in varying degrees, proactive initiatives to adapt to future impacts and adjustments to actual or expected climate changes have been lacking.

WWF-Canada's freshwater team is working with a diverse group of communities and stakeholders to demonstrate actions that support a healthy and resilient river.

Since 2014, WWF has been working with the Western Valley Regional Service Commission and the municipalities of Woodstock, Hartland and Florenceville-Bristol to initiate and develop the Community Climate Change Vulnerability Assessment (CCCVA). The CCCVA process helps participating communities understand local hazards, the vulnerability of infrastructure and which community elements are most sensitive to a changing climate, as well as to share knowledge and concerns about uncertainties in the weather and the increasing number of extreme weather events. The assessment provides a critical foundation for understanding climate change risks at the community level and will drive the development of an adaptation strategy.

FROM TELECOMMUNICATIONS FAILURES TO SEWAGE OVERFLOWS: KEY RISKS

Community members involved in the CCCVA looked at regional characteristics (climate, forest, wildlife and habitat, settlement, economy), climate impacts and response to impacts. The focus for the group was on 25-year impacts with a 10-year planning horizon concentrating on municipal concerns, followed by community and industry concerns as they came up. Using the methodology recommended by the International Council for Local Environment Initiatives - Canada (ICLEI), risks were prioritized for each community:

FLORENCEVILLE - BRISTOL

- » Power outages
- » Telecommunications failures
- » Delayed emergency responses
- » Flooded routes requiring immediate fixes
- » Use of staff outside of mandate
- » Damaged or lost assets/Businesses impacted by flooding
- » Altered routes due to flooding/Planting and harvesting seasons impacted/Forestry operations affected
- » Longer travel times due to flooded routes
- » Possible sewage overflows into river
- » Delayed pick-up of solid waste due to flooded routes

HARTLAND

- » Possible contamination of well field
- » Power outages
- » Basement back-ups
- » Increases in ice-jam flooding
- » Water delivery lines impacted
- » Homes flooded/Delayed response in emergency management
- » Delayed emergency response/Assets lost or damaged
- » Possible sewage overflows into river
- » Businesses impacted by flooding

WOODSTOCK

- » Power outages
- » Possible well field contamination
- » Telecommunications down
- » Increases in ice-jam flooding
- » Businesses impacted by flooding
- » Access to well-house cut off
- » Water delivery lines impacted/Flooded routes requiring immediate fixes



LEFT: FLORENCEVILLE-BRISTOL AREA ; RIGHT: SHIKTEHAWK TRAIL, FLORENCEVILLE-BRISTOL © WWW.HIKINGNB.CA

COMMUNITY CLIMATE CHANGE VULNERABILITY ASSESSMENT



The assessment created a benchmark for the Western Valley Regional Service Commission. This project represents both the first time the communities have come together to work on climate change vulnerability and is the first assessment completed on a freshwater system in New Brunswick.

Working Group members (Left to right in photo): Regional Service Commission's Katie Hayden, Town of Hartland's Deputy Mayor Travis Dickinson and WWF-Canada's Simon J. Mitchell

SOLUTIONS BASED ACTIONS

The results from the vulnerability assessment provide a way forward that addresses community vulnerabilities in the face of a changing climate. Adaptation actions identified include:

- ◇ **The following changes to municipal infrastructure:**
 - » Locating new water sources in Woodstock,
 - » Relocation of lagoon in Hartland; in a few areas, reinforcement has already been completed in Florenceville-Bristol,
 - » Building flood barriers/berms (while a specific suggestions by Woodstock, could be useful throughout the communities);
- ◇ **Municipalities ensure they have backup power as well as community charging stations;**
- ◇ **Further develop a pool of community leaders who will move the climate change adaptation agenda forward;**
- ◇ **Nurture voluntary organizations and participation at community events as they can increase community resilience-building and improve interactions between neighbours. Voluntary organizations are critical in times of emergency, such as extreme weather events;**
- ◇ **Consider wildlife resources/habitat, including soils, in all land-use planning decisions, as arrangements that benefit wildlife habitat may also benefit the community and the economy;**
- ◇ **Further develop the capacity for communities, from individual community members to municipal leaders, to help:**
 - » Co-ordinate implementation and timing of climate change actions/responses,
 - » Improve awareness regarding provincial action on its newly developing flood strategy,
 - » Improve awareness of financial aid available to adapt to a changing climate,
 - » Improve awareness regarding the province's, non-profit organizations' and/or academia's involvement in forecasting and analyzing ice jam-related flood events, and anticipating the potential for increased risks as a result of a changing climate.

NEXT STEPS: SCALING UP ACTIONS



In the fall of 2016, WWF-Canada and the Western Valley Regional Service Commission developed a public awareness campaign for adapting to climate change. Part of this will be building community solutions into the region's climate change adaptation plan. WWF-Canada and other partners are excited to support this initiative and look forward to continued involvement in this region in support of a healthy and resilient St. John River.

WWF-Canada will continue to address the threat of climate change by working together with the people of New Brunswick in building a healthy and resilient St. John River.

FOR FULL REPORT: [HTTP://WWW.WWF.CA/NEWSROOM/REPORTS/FRESHWATER/](http://www.wwf.ca/newsroom/reports/freshwater/)



Why we are here.
We are creating solutions to the most serious conservation challenges facing our planet, helping people and nature thrive.
www.wwf.ca

FOR MORE INFORMATION:

Simon Mitchell
Senior Specialist, St. John River, WWF-Canada
(506) 238-4429, smitchell@wwfcanada.org

Rowena Calpito
Communications Specialist, WWF-Canada
(416)-489-4567 ext. 7267, rcalpito@wwfcanada.org



WWF's mission is to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature by:

- ▶ Conserving the world's biological diversity
- ▶ Ensuring that the use of renewable natural resources is sustainable
- ▶ Promoting the reduction of pollution and wasteful consumption

WWF-Canada

245 Eglinton Avenue East, Suite 410
Toronto, Ontario M4P 3J1 CANADA
Tel: (416) 489-8800
Toll Free: 1-800-267-2632
Fax: (416) 489-3611

www.wwf.ca